REMARKS

I. Introduction

By the present Amendment, claim 1 has been amended. Claims 3-5, 7, 10, 11, and 13-15 have been cancelled without any prejudice or disclaimer to the subject matter recited therein. Claims 16-24 are newly presented for consideration. Accordingly, claims 1, 2, 6, 8, 9, 12, and 16-24 are now pending in the application. Claims 1, 19, 21, and 23 are independent.

II. Office Action Summary

In the Office Action of September 16, 2008, claims 3-5, 7, 10, 11, and 13-15 were objected to under 37 CFR §1.75(c) as being of improper dependent form. Claim 1 was rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 5,517,994 issued to Burke et al. ("Burke"). Claim 2 was rejected under 35 USC §103(a) as being obvious over Burke in view of U.S. Patent No. 6,602,196 issued to Suzuki ("Suzuki"). Claims 3-5 and 7-15 were rejected under 35 USC §103(a) as being obvious Burke. The cancellation of claims 3-5, 7, 10, 11, and 13-15 has rendered some of these grounds of rejection moot. Regarding the remaining claims, these rejections are respectfully traversed.

III. Objections under 37 CFR §1.75

Claims 3-5, 7, 10, 11, and 13-15 were objected to under 37 CFR §1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Regarding this objection, the Office Action indicates that these claims fail to further limit claim 1 in terms of the invention's structure.

At the outset, Applicants note that there appears to be some confusion as to the requirements of 37 CFR §1.75(c). Specifically, there is no requirement that a dependent claim can only limit the subject matter of a previous claim by adding a new structure. In fact, 37 CFR §1.75(c) only relates to proper form for multiple dependent claims.

In any event, Applicants have cancelled claims 3-5, 7, 10, 11, and 13-15, thereby rendering this particular ground of objection moot.

IV. Rejections under 35 USC §102

Claim 1 was rejected under 35 USC §102(b) as being anticipated by Burke. Regarding this rejection, the Office Action alleges that Burke discloses an ultrasonic diagnostic system capable of performing self diagnostic tests on the system processing and control channels coupled to the transducer element of an ultrasonic probe. The Office Action alleges that the system of Burke comprises a probe that transmits and receives ultrasonic waves to and/or from a test subject, a diagnostic processor coupled to a number of subsystems including the ultrasound probe, a beam former, and an image-and-Doppler processor. The image-and-Doppler processor is indicated as processing digital echo signals to form an image or to make diagnostic measurements such as the velocity of blood flow in the subject's body. Furthermore, the Office Action alleges that the diagnostic processor operates under the control of a central system controller which allows it to monitor the probe-air interface by performing self diagnostic tests, and adjusting operating characteristics of the system electronics accordingly. Applicants respectfully disagree.

At the outset, Applicants note that the Office Action has failed to make a *prima facie* case of anticipation. While Burke is relied upon as disclosing all the features of independent claim 1, the Office Action never addresses the limitation of the control section controlling the drive signal supplied to the probe from the transmitting section in order to suppress a rise in the temperature of the probe. As is well known, anticipation requires that every single element of the claim be disclosed in a single reference. Furthermore, the burden is on the Examiner to make a clear case, on the record, where all the claim features are disclosed in the reference.

As to the specific requirements for supporting a rejection under 35 U.S.C. §102, Applicants first point out that the burden falls on the Examiner to establish a *prima facie* case of anticipation. See *In re Sun*, 31 USPQ2d 1451, 1453 (Fed. Cir. 1993). As emphasized by the court in *In re Warner*, "[t]he precise language of 35 U.S.C. 102 that "a person shall be entitled to a patent unless," concerning novelty and unobviousness, clearly places a burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 and 103. . . ." (Emphasis added) 154 USPQ 173, 177 (C.C.P.A. 1967), *cert. denied*, 389 U.S. 1057 (1968).

In order to qualify as an anticipatory reference, a prior art reference must necessarily disclose each and every element recited in the claimed invention. This disclosure must also be made with a sufficient level of clarity. See *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 43 USPQ2d 1481, 1490 (Fed. Cir. 1997). See also *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990) ("[T]he [prior art] reference must describe the applicant's claimed invention sufficiently to have placed a person of ordinary skill in the field of the invention in possession of it." (citations omitted)). As further stated by the Federal Circuit,

"Although this disclosure requirement presupposes the knowledge of one skilled in the art of the claimed invention, that presumed knowledge does not grant a license to read into the prior art reference teachings that are not there." (Emphasis added) *Id.*

Reference is further made to the decision of *In re Robertson*, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim be found, either expressly or inherently described in a single prior art reference. As noted by that court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." (Emphasis added). Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. See also *In re Oelrich,* 666 F.2d 578, 581, 212 USPQ 323, 326 (C.C.P.A. 1981) ("Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient.")

Finally, the alleged anticipatory reference must be enabling. In particular, it is the claimed invention that must be enabled within the reference and not any other teachings disclosed by the reference. See *Elan Pharms. Inc. v. Mayo Found. for Med. Educ. & Research*, 346 F.3d 1051, 68 USPQ2d 1373, 1375-76 (Fed. Cir. 2003) ("To serve as an anticipating reference, the reference must enable that which it is asserted to anticipate."); and *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d

1313, 1354, 65 USPQ2d 1385, 1416 (Fed. Cir. 2003) ("A claimed invention cannot be anticipated by a prior art reference if the allegedly anticipatory disclosures cited as prior art are not enabled.").

By the present Amendment, Applicants have amended independent claim 1 in an attempt to better clarify features that are clearly not shown by the art of record. As amended, independent claim 1 defines an ultrasonic diagnostic apparatus that comprises:

> a probe that transmits/receives ultrasonic waves to/from a test subject;
>
> a transmitting section that supplies a drive signal to the probe;
>
> a receiving section that receives a reflection echo signal outputted from the probe;
>
> an image constructing section that reconstructs a diagnostic image on the basis of the received reflection echo signal;
>
> a display section that displays the diagnostic image constructed by the image constructing section; and
>
> a control section that controls these sections,
>
> wherein the ultrasonic diagnostic apparatus includes a judging section that judges, on the basis of the diagnostic image information, that the probe is left in the air, and when the judging unit judges that the probe is left in the air, the control section suppresses the quantity of the drive signals supplied to the probe from the transmitting section.

The ultrasonic diagnostic apparatus of independent claim 1 includes a probe that transmits/receives ultrasonic waves to/from a test subject, a transmitting section that supplies a drive signal to the probe, a receiving section that receives a reflection echo signal output from the probe, an image constructing section that reconstructs a diagnostic image based on the received reflection echo signal, and a display section that displays the diagnostic image constructed by the image constructing section. The ultrasonic diagnostic apparatus also includes a control section that controls the

probe, transmitting section, receiving section, image reconstructing section, and display section. According to independent claim 1, a judging section is provided to determine whether the probe is left in the air based on the diagnostic image information. If the probe is determined to have been left in the air, the control section suppresses the quantity of the drive signals supplied to the probe from the transmitting section.

As discussed in the Background section of the application, one of the problems associated with ultrasonic diagnostic devices is the thermal energy that can be created and ultimately damage the probe. More particularly, when the ultrasonic waves are continuously transmitted with the probe left in the air (separated from the patient), the energy from the ultrasonic waves changes to thermal energy and increases the temperature in the vicinity of the probe's surfaces. This increase in temperature can cause deterioration of various components of the probe, including separation of the rubber components that form the probe itself. See paragraph [0003] of the published application. According to independent claim 1, such temperature increases are prevented by suppressing the quantity of the drive signals being supplied to the probe when the probe is left in the air.

The Office Action alleges that Burke discloses all the features recited in independent claim 1. This does not appear to be the case. As previously discussed, the Office Action has not address all the limitations of independent claim 1, and in particular, features that relate to suppression of the temperature increase in the probe. Furthermore, Applicants' review of Burke has failed to reveal any disclosure, or suggestion, for such features. Burke discloses a system for testing the integrity of an ultrasonic transducer probe or the ultrasound system connected to the probe. A diagnostic processor analyzes signals received from the probe to determine

characteristics such as amplitude, time of echo reception, group delay, and other characteristics that would indicate problems such as faulty transducer elements or connections. The diagnostic processor is also capable of adaptively adjusting the operating characteristics of the system (e.g. gain or time delay) in order to compensate for a detected faulty condition. See Abstract and column 2, lines 45 to 67. Contrary to the assertions made in the Office Action, Burke never discloses or addresses the problem of temperature rise in the probe. Burke simply fails to provide any disclosure for features recited in independent claim 1, such as:

> wherein the ultrasonic diagnostic apparatus includes a judging section that judges, on the basis of the diagnostic image information, that the probe is left in the air, and when the judging unit judges that the probe is left in the air, the control section suppresses the quantity of the drive signals supplied to the probe from the transmitting section.

It is therefore respectfully submitted that independent claim 1 is allowable over the art of record.

Claims 2, 6, 8, 9, 12, and 16-18 depend from independent claim 1, and are therefore believed allowable for at least the reasons set forth above with respect to independent claim 1. In addition, these claims each introduce novel elements that independently render them patentable over the art of record.

V. Rejections under 35 USC §103

Claim 2 was rejected under 35 USC §103(a) as being obvious over Burke in view of Suzuki. Regarding this rejection, the Office Action alleges that Burke discloses most of the claimed features, including a diagnostic processor that plays the role of the judging section. The Office Action admits that Burke fails to specifically disclose more than one image-mode processor. Suzuki is relied upon for

disclosing an ultrasonic imaging apparatus that comprises a B-mode processor and a Doppler processor. Applicants respectfully disagree.

As previously discussed, claim 2 depends from independent claim 1, and is therefore believed allowable for at least the reasons set forth above with respect to independent claim 1. Furthermore, Burke actually fails to disclose features that are explicitly recited in independent claim 1. The inclusion of Suzuki as a secondary reference does not remedy this particular failure because Suzuki also fails to provide any disclosure or suggestion for the same features that are lacking in Burke.

Accordingly, claim 2 is believed allowable over the art of record.

VI. Allowable Subject Matter

Claim 6 was not objected to or rejected in the Office Action. Accordingly, claim 6 is believed to be in condition for allowance.

Independent claims 19, 21, and 23 are newly presented for consideration. These claims each define an ultrasonic diagnostic apparatus that includes features somewhat similar to those recited in independent claim 1. In particular, a control section is provided for suppressing the quantity of the drive signals supplied to the probe from the transmitting section when the judging unit determines that the probe is left in the air. As previously discussed, this particular feature is not shown or suggested by the art of record.

It is therefore respectfully submitted that independent claims 19, 21, and 23 are allowable over the art of record.

Claims 20, 22, and 24 depend from claims 19, 21, and 23, respectively, and are therefore believed allowable for at least the reasons set forth above with respect to these claims.

VII. Conclusion

For the reasons stated above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a Notice of Allowance is believed in order, and courteously solicited.

If the Examiner believes that there are any matters which can be resolved by way of either a personal or telephone interview, the Examiner is invited to contact Applicants' undersigned attorney at the number indicated below.

AUTHORIZATION

Applicants request any shortage or excess in fees in connection with the filing of this paper, including extension of time fees, and for which no other form of payment is offered, be charged or credited to Deposit Account No. 01-2135 (Case: 520.45475X00).

Respectfully submitted,
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